



Exelon Generation®

10 CFR 50.73

NMP2L 2581
April 20, 2015

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 2
Renewed Facility Operating License No. NPF-69
Docket No. 50-410

Subject: NMP2 Licensee Event Report 2015-002, Manual Reactor Scram due to
Unexpected Reactor Water Level Change

In accordance with the reporting requirements contained in 10 CFR 50.73(a)(2)(v)(C), please
find enclosed NMP2 Licensee Event Report 2015-002, Manual Reactor Scram due to
Unexpected Reactor Water Level Change.

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact
Dennis Moore, Site Regulatory Assurance Manager, at (315) 349-5219.

Respectfully,

William J. Traffon
Plant Manager, Nine Mile Point Nuclear Station

WJT/KJK

Enclosure: NMP2 Licensee Event Report 2015-002, Manual Reactor Scram due to
Unexpected Reactor Water Level Change

cc: NRC Regional Administrator, Region I
NRC Resident Inspector
NRC Project Manager

IE22
NRR

Enclosure

NMP2 Licensee Event Report 2015-002

Manual Reactor Scram due to Unexpected Reactor Water Level Change

Nine Mile Point Nuclear Station, Unit 2

Renewed Facility Operating License No. NPF-69

**LICENSEE EVENT REPORT (LER)**(See Page 2 for required number of
digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Nine Mile Point Unit 2

2. DOCKET NUMBER

05000410

3. PAGE

1 OF 5

4. TITLE

Manual Reactor Scram Due to Unexpected Reactor Water Level Change

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
2	18	2015	2015	002	00	4	20	2015	N/A	N/A
9. OPERATING MODE										
11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)										
1			<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)			<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> 50.73(a)(2)(vii)
			<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(viii)(A)
			<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)			<input type="checkbox"/> 50.73(a)(2)(ii)(B)			<input type="checkbox"/> 50.73(a)(2)(viii)(B)
			<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)			<input type="checkbox"/> 50.73(a)(2)(iii)			<input type="checkbox"/> 50.73(a)(2)(ix)(A)
10. POWER LEVEL			<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)			<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)			<input type="checkbox"/> 50.73(a)(2)(x)
			<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)			<input type="checkbox"/> 50.73(a)(2)(v)(A)			<input type="checkbox"/> 73.71(a)(4)
			<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(v)(B)			<input type="checkbox"/> 73.71(a)(5)
			<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)			<input type="checkbox"/> 50.73(a)(2)(v)(C)			<input type="checkbox"/> OTHER
			<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)			<input type="checkbox"/> 50.73(a)(2)(v)(D)			Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Dennis Moore, Site Regulatory Assurance Manager

TELEPHONE NUMBER (Include Area Code)

(315) 349-5219

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR
N/A	N/A	N/A

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On February 18, 2015, at 1406, Nine Mile Point Unit 2 inserted a manual reactor scram due to rapidly rising reactor water level. This event is reportable under 10 CFR 50.72 (b)(2)(iv)(B) and 10 CFR 50.73(a)(2)(iv)(A) as any event or condition that resulted in a manual or automatic actuation of any of the systems listed in 10 CFR 50.73(a)(2)(iv)(B). The Reactor Protection System (RPS) was manually actuated, resulting in a reactor scram. The rapidly increasing reactor water level was due to the lifting and separating of two leads on a level recorder being replaced. The root cause of the event was the technical human performance verification tools were not adequately used during the Fix-It-Now (FIN) planning process to validate plant impact since there was a bias towards a level recorder replacement not impacting the control circuit. Corrective actions taken include replacing the failed level recorder and establishing a compensatory action to require FIN Team work packages staged by the FIN team to be peer reviewed by a same-discipline technician.

The event described in this LER is documented in the plant's corrective action program as IR2454892. NMP2 LER 2014-004 reported a similar event.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Nine Mile Point Unit 2	05000410	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 5
		2015	- 002	- 00	

NARRATIVE**I. DESCRIPTION OF EVENT****A. PRE-EVENT PLANT CONDITIONS:**

Prior to the event, Nine Mile Point Unit 2 (NMP2) was operating at 100 percent power.

B. EVENT:

On February 18, 2015, at 1406, during the replacement of the Reactor narrow range and upset range water level recorder at NMP2, a Fix-It-Now (FIN) instrument maintenance technician lifted two leads from a single contact and separated them causing a disruption in the signal going to the Feedwater Level Control System (FWLCS). This loss of signal provided a false reactor water level low condition and the Feedwater (FW) level control valves fully opened to recover level. This resulted in operators manually scrambling the reactor prior to reaching the Reactor Vessel Water Level High – Level 8 (202.3 inches), which would have resulted in a turbine trip and subsequent automatic reactor scram.

Nine Mile Point Unit 1 (NMP1) was unaffected by the manual reactor scram at NMP2.

The event has been entered into the plant's corrective action program as IR 2454892.

C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:

There were no inoperable systems, structures, or components that contributed to this event.

D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

The dates, times, and major occurrences for this event are as follows:

February 18, 2015

1316: Clearance hung to de-energize the recorder being replaced.

1405: Work commenced and two leads were lifted and separated from the recorder terminals. Reactor water level began to rise unexpectedly.

1406: Manual reactor scram inserted by placing the mode switch in shutdown.

E. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

No other systems or secondary functions were affected beyond the systems discussed in

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Section I.B.

F. METHOD OF DISCOVERY:

The condition was recognized by Operations when the reactor water level high level alarm was received in the main control room.

G. MAJOR OPERATOR ACTION:

Operations inserted a manual reactor scram prior to reaching the Reactor Vessel Water Level High – Level 8 (202.3 inches), which would have resulted in a turbine trip and subsequent automatic reactor scram.

H. SAFETY SYSTEM RESPONSES:

All safety systems responded as expected.

II. CAUSE OF EVENT:

The root cause of the event was the technical human performance verification tools were not adequately used during the FIN planning process to validate plant impact since there was a bias towards a recorder replacement not impacting the circuit. Work practices of using additional verification tools to assess plant impact and to mitigate risk, degraded over time, due to organizational changes within the FIN group. This resulted in the error going undetected.

III. ANALYSIS OF THE EVENT:

This event is reportable under 10 CFR 50.72 (b)(2)(iv)(B) and 10 CFR 50.73(a)(2)(iv)(A) as any event or condition that resulted in a manual or automatic actuation of any of the systems listed in 10 CFR 50.73(a)(2)(iv)(B). The RPS system, including reactor scram, is listed in 10 CFR 50.73(a)(2)(iv)(B)(1).

NMP2 failed to identify the risk and consequences associated with lifting and separating the leads which led to incorrectly assessing the risk for the work to be performed on a component that affects the FWLCS. When the crew lifted the signal leads, this action interrupted a voltage daisy chain which fed a flow miss-match signal to the FWLCS master level controller subsequently causing the feedwater level control valves to open and reactor water level to rise. Operations responded to the event by entering the Special Operating Procedure (SOP) for Reactor Scram, and manually scrammed the reactor prior to a Reactor Vessel Water Level High – Level 8 (202.3 inches), which would have resulted in a turbine trip and subsequent automatic reactor scram.

There were no actual nuclear safety consequences associated with this event. The plant response to the manual scram was within expected design values.

Based on the above discussion, it is concluded that the safety significance of this event is low and the event did not pose a threat to the health and safety of the public or plant personnel.

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This event does affect the NRC Regulatory Oversight Process Indicators for unplanned scrams. Due to this scram, the unplanned scrams index value will be 0.86 compared to the Green-to-White threshold value of greater than 3 at the end of the first quarter 2015.

IV. CORRECTIVE ACTIONS:**A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:**

Measures taken to return the plant to pre-event status included entering plant procedures N2-SOP-101C, Reactor Scram, and N2-EOP-RPV, RPV Control. The wires removed from signal lead were immediately relanded. The level recorder was replaced prior to plant startup.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

Established a compensatory action to require FIN Team work packages staged by FIN to be peer reviewed by a same-discipline technician (e.g., from FIN team, Planning, or Shop). The focus of the peer review is on determining plant impact associated with doing the work and associated risk screening per WC-AA-104, Integrated Risk Management. This expectation does not include minor maintenance or tool pouch maintenance. This expectation will remain in effect until formal guidance is published.

The following corrective action to prevent recurrence is planned:

Implement station specific guidance to require and provide direction for independent reviews for within the FIN team. This guidance will require FIN Team work packages staged by FIN to be independently reviewed by a same-discipline technician (e.g., from FIN team, Planning, or Shop). The focus of the independent review is on determining plant impact associated with doing the work and associated risk screening per WC-AA-104.

V. ADDITIONAL INFORMATION:**A. FAILED COMPONENTS:**

There were no failed components that contributed to this event.

B. PREVIOUS LERs ON SIMILAR EVENTS:

NMP2 LER-2014-004, dated May 7, 2014, was submitted for an automatic reactor scram that occurred while installing instrument rack warning tags. The cause of the event in LER 2014-004 was that station personnel had not adequately internalized the risk and implemented rigorous processes and behavioral barriers to mitigate the vulnerabilities associated with work on or near trip sensitive equipment. The risk associated with changing the instrument rack warning tags was believed to be negligible and manageable by being careful.

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The behaviors exhibited in this event were different. The risk of lifting and separating the leads for the level recorder replacement was thought to be benign, like the previous level recorder change outs. The individuals that reviewed the prints and the work package did not believe there would be a negative impact to replacing the level recorder. The work package development and subsequent reviews did not identify the voltage daisy chain that existed for this level recorder connection.

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EII) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:

<u>COMPONENT</u>	<u>IEEE 803 FUNCTION IDENTIFIER</u>	<u>IEEE 805 SYSTEM IDENTIFICATION</u>
Level Recorder	LRC	JB
Level Alarm	LA	JB
Feedwater Level Control Valve	LCV	SJ
Reactor Protection System	N/A	JC
Feedwater Level Control System	N/A	JB
Feedwater System	N/A	SJ

D. SPECIAL COMMENTS:

None